

National Aeronautics and Space Administration

John C. Stennis Space Center Stennis Space Center, MS 39529-6000

COMPLIANCE IS MANDATORY

John C. Stennis Space Center PREPARATION OF FORM SSC-625, CERTIFICATE OF COMPLETION (COC)

Approved in DDMS by:

Thom Rich <u>5-24-2021</u> NASA SSC Center Operations Directorate Date Facilities Engineering Services Concurrence by: A. Todd Mannion 5-19-2021 NASA SSC Center Operations Directorate Facility Services Branch Bartt J. Hebert 5-17-2021 NASA SSC Engineering & Test Directorate Date Issued by ISSUED CEF <u>5-24-20</u>21

Date

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Central Engineering Files

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Document History Log

Status/ Change/ Revision	Change Date	Originator/ Phone	Description
Basic	12/11/01	M. DeSandro Ext. 2413	Initial release supersedes SSC STD 99-024 Rev. Basic, with the following changes: New document number and format per SPG 1400.1; Change signature titles per NASA SSC reorganization; Change NASA Facilities Engineering Division (FED) to Engineering Services Division (ESD); per FOSC reorganization, change Engineering and Construction Department (ECD) to Engineering and Test Complex Services Department (ETS) and delete Test Complex Support Department (TCSD); 1.0 change section title and add new section 2.0 with delete ref. SLP-05 and change ref. OP RA-97-02 to SSTD-8070-0001-CONFIG; merge steps a and b; 2.0 change section title and renumber as 3.0; 3.0 change references per text mods; move Acronyms and Abbreviations to new Appendix B; move Definitions to new Section 7.0; 4.2-c revise text for new Table 1 and responsibilities for submittal of COC documentation to CEF; 5.1-b add CCC 5-part card; 5.2 step 12 add DWVR (form SSC-517) and ref to SSC STD 99-016; step 20 add form SSC-217; add new step 25 for CCC form SSC-633; step 32 add ref to CEF distribution list; 5.2 step 19 add abatement plan and dig permit; 5.3 steps a and b modify signatures procedures; 7.0 add definitions for Direct Contract, Test Liaison; 8.0 add new flow chart.
A	12/29/06	James W. Hughes x 8-2304	Revalidated. Updated references and amended text to reflect proper references. Corrected typographical errors throughout document. Changed signature titles per NASA SSC organization changes.
В	05/25/07	James W. Hughes ext. 8-2304	Removed references to NASA Engineering Services Department (ESD) per NASA organization re- structuring. Added SPR 1440.1 (as it superseded SSLP-

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			1440-0001) to sections 3.0 and 6.0. Removed acronym COSD from text and Appendix B since no longer applicable. Changed all references from TTSC to TOC. Deleted TTSC from Appendix B. Added TOC to Appendix B.
С	09/14/11	T. Ehrlich, ext. 8-3043	Updated references and administrative changes. Section 1.0, added for construction and renovation projects, and facility value and vendor data to Purpose Section 4.0c: Changed ETS to ESD or FM&O. Changed Construction Monitor to Construction Manager. Changed Project Manager to Contracting Officer Technical Representative (COTR). Changed Project Coordinator to Scheduler. Section 4.0C: Added Configuration Coordinator. Section 5.1(d): Added this section to handle partial COCs. Section 5.2.1, Changed entire section to better reflect actual COC process changes and information. Section 9.0: New flow chart. Appendix A: New form created to better reflect SSTD.
C-1	03/05/12	J. Anthony, ext. 8-2030	Section 5.2.1(25), deleted Note: Changes to panel schedules are changes to baseline; however, in-house projects involving changes only to panel schedules need the approval of only the Shop Supervisor/Shop Lead. (See 28 below.). Section 5.2.1(28), deleted Note: If change to baseline involves only panel schedules, 1/8" floor plans, or minor lighting modifications, only the Shop Supervisor/Shop Lead signature is required. Section 5.2.1(33), deleted For all contractor / subcontractor and in-house projects, except as identified in 25 and 27,
C-2	02/16/16	R. Carol Wolfram 8-1164	Administrative changes. Replaced "FOSC" with "SACOM" throughout document. Replaced "SWR" with "Task Order" throughout document. Replaced "TOC" with "Test Complex" when reference involved physical Test Complex area; and "SACOM," regarding contractual and/or process references. Replaced "COTR" with "COR" throughout document.

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D	03/25/16	J. Anthony, Ext. 8-2030	Revised cover sheet to require approval from NASA SSC Center Operations Design & Construction Project Management Division, with concurrence from NASA SSC Center Operations Directorate Operations & Maintenance Division and NASA SSC Engineering and Test Directorate. Updated document to reflect DDMS routing and electronic approval authorization. Administrative changes required. Changed COTR to COR throughout document. Revised flow chart to reflect electronic approval routing process. Updated Appendix A, Certificate of Completion to include Arc Flash Assessment. 4.0-f: Replaced "Scheduler" with "Work Control personnel". Updated 5.1-a to reflect associated construction files which, if required, shall be provided to CEF at construction completion or with a Partial Release of Construction Documentation letter. 5.2-a: Deleted 13, and added 28 and 34 as applicable line items. 5.2.1-28: Added Arc Flash Assessment consideration to documentation required when submitting a COC. 5.2.1.32: Removed qualifying note indicating "NASA and/or FOSC Safety/Quality signature is required when the implementation SWR indicates that the project involves quality considerations or when NASA and/or FOSC Safety/Quality signs an FCR related to the project." 5.3.a and 5.3.b: Amended to restrict "N/A"ing SMA signature.
E	09/01/20	Delton Rodriguez 8-2499 Matthew Ladner / 8-2386	Updated directorate titles on cover and in header. 5.1: Changed "Arc Flash Assessment" bullet to "Arc Flash Hazard Study/Analysis." 5.2.28: Updated Arc Flash Hazard Assessment requirements per SSTD-8070-0138-ELEC. 7.0: Updated definitions to include pertinent Arc Flash Hazard references.
E-1	09/15/20	C. Wolfram 8-1620	Administrative update to make current the effective/review dates.

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F	04/23/21	Jo Anthony	Five-year review.
		Ext. 8-2030	Updated directorate titles within the document.
			Updated references, forms, and acronyms.
			Document reworked in its entirety to reflect electronic
			processes/DDMS used to complete Form SSC-625.
			5.2.1 No. 33: Added "NASA Environmental
			Representative" to Approval Signature block of COC.
			Form SSC-625 updated to reflect SSTD revisions,
			including addition of No. 33, NASA Environmental
			Representative, in the Approval Signatures block.

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1.0 PURPOSE

This John C. Stennis Space Center (SSC) standard (SSTD) establishes the requirements and procedures for completion and submittal of Certificate of Completion (COC), Form SSC-625, utilizing the Design and Data Management System (DDMS) which is accessible via the Product Data Lifecycle Management (PDLM) Portal. A COC is required for construction and renovation projects at SSC where any of the following conditions exist:

- a. Facilities baseline documentation is affected as referenced in SSTD-8070-0001-CONFIG.
- b. Facility value is increased by \$5,000 or more.
- c. There is new or replacement vendor data, which is required for all jobs including shop work orders.
- d. Project involves changes to breaker panels.

2.0 APPLICABILITY

- a. This SSTD applies to all SSC National Aeronautics and Space Administration (NASA) organizations, resident agencies, and contractors in accordance with the applicable requirements of SSTD-8070-0001-CONFIG.
- b. This SSTD shall be maintained in accordance with SSTD-8070-0005-CONFIG.
- c. Final authority for approval and interpretation of this SSTD resides with the NASA SSC Center Operations Directorate Facilities Engineering Services and the NASA SSC Center Operations Directorate Facility Services Branch.

3.0 REFERENCED DOCUMENTS

Referenced documents shall be the latest version unless otherwise specified.

SPR 1400.1, SSC Document Preparation, Numbering, and Management

SPR 1440.1, SSC Records Management Program Requirements

SREF-8070-0025, SSC Component Lifecycle

SSTD-8070-0001-CONFIG, SSC Facilities Engineering Documentation Standard

SSTD-8070-0005-CONFIG, SSC Preparation, Review, Approval, and Release of SSC Standards

SSTD-8070-0006-CONFIG, SSC Component Servicing Processes and Documentation

SSTD-8070-0007-CONFIG, SSC Variance and Alternate Standard Requests

SSTD-8070-0010-CONFIG, SSC Maintenance of the SSC System Operation and Maintenance Responsibility Database (SOMRD)

SSTD-8070-0138-ELEC, SSC Arc Flash Standard

SWI-8730-0006, SSC Institutional Nonconformance Processing

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4.0 RESPONSIBILITIES

- a. If a COC is necessary for a project, the applicable NASA or Contractor central planning and control function shall indicate it as such on the Stennis Task Orders (TOs), Service Requests (SRs), or Core Work Order (WO).
- b. Initiation of a COC shall be the responsibility of the NASA or Contractor lead design engineer or the lead person for the project. (Detailed instructions are provided in Section 5.2.)
- c. Completion of a COC shall be the responsibility of the appropriate engineer and/or manager, depending on the type of project. (See COC Responsibility Matrix below.)

COC RESPONSIBILITY MATRIX

TYPE OF PROJECT	RESPONSIBLE PERSON
NASA or other Resident Agency direct contract without Supervision, Inspection and Engineering Support (SIES) funding	NASA Contracting Officer Representative (COR) or other Government representative
NASA or other Resident Agency direct contract with SIES funding for Engineering Services Division (ESD) or Contractor Operations and Maintenance (O&M) Construction Manager (CM)	ESD or Contractor O&M CM
NASA Facilities Services Department (FSD) or Contractor O&M Shop with SIES funding for ESD or Contractor O&M CM	ESD or Contractor O&M CM
NASA FSD Shop without SIES funding for ESD or Contractor O&M CM	NASA FSD System Engineer
ESD or Contractor O&M Shop without SIES funding for ESD or Contractor O&M CM	ESD or Contractor O&M CM
Test Complex (TC) in-house maintenance and/or construction projects	Contractor Engineering Manager

- d. The person responsible for completing a COC, as indicated on the COC Responsibility Matrix, is responsible for initiating and submitting an Asset/Equipment List in DDMS in accordance with SSTD-8070-0010-CONFIG.
- e. The NASA COR (and/or SACOM CM) will ensure the appropriate data for all new or removed equipment is accurately recorded on the Asset/Equipment List, processed in

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accordance with SSTD-8070-0010-CONFIG, and included with the final COC package submittal.

- f. If drawings/model are affected, the ESD Drafting Supervisor will provide the appropriate Work Control personnel with a cost estimate and/or document the need for additional funding that will be required to update all affected drawings and associated engineering data.
- g. The ESD Drafting Supervisor shall ensure that baseline drawings/model are updated.
- h. For Synergy-Achieving Consolidated Operations and Maintenance (SACOM) or TC inhouse construction projects, the TO, SR, or Core WO will not be closed until the final COC is issued by Central Engineering Files (CEF).

5.0 PROCEDURE

5.1 General

a. If applicable, the following associated electronic or scanned construction files shall be uploaded to the appropriate folders in DDMS. Objects within the Construction Folder will include:

Note: All component documentation must be properly associated prior to completion of the COC package.

- Arc Flash Hazard Study/Analysis
- Amendments/Errata
- Asbestos Abatement Plan
- Assessment
- Asset/Equipment List
- Bid Package Letter/Solicitation Package
- Construction Component Spreadsheet
- Component and hardware/equipment documentation, such as clean certifications, proof certifications, inspection reports, calibration reports, material lists, etc.
- Construction Redlines
- Contract
- Contract Modifications
- Contractor Transmittal Sheets (SSC-581)
- Contractor's Evaluation
- Correspondence
- Cost Information including TOs, Bid Summary Report/Bids, Backout Worksheet, Bid Bust Worksheet, Funding Worksheet/Recap Sheet, Percentage of Completion Letter(s)

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• Daily Logs

- Lessons Learned
- Manufacturer Spares List
- O&M Manuals
- Panel Schedule (SSC-886)
- Permits
- Post Award Conference (Pre-Con/Notice to Proceed)
- Pre-bid Conference (mandatory job walk e-mail)
- Project Acceptance Walk-through
- Punch List
- Requests for Information (RFIs) (SSC-781)
- Request for Turn-In Form
- Responses to Contractor Questions
- RFI Letters
- Stennis Change Request (SCR) letters
- SCRs (SSC-61)
- Submittals for Affirmative Procurement/Sustainable Acquisitions
- Transfer and/or Notification of Acceptance of Accountability of Real Property (NASA Form 1046)
- Transmittal Letters
- Vendor/Warranty Information
- b. Once construction is complete, the ESD Configuration Coordinator (CC) and CM verify that all elements of the COC package are included. The CC then routes the COC for electronic approval per the As-Built Change Request (CR) process.
- c. CEF generates a Change Notice (CN) which is routed to Drafting to update the affected drawings/model.
- d. Projects being worked by more than one (1) entity will require completion and submission of a "partial COC". (Note: A "partial COC" is handled in the same manner as a full COC.)
 - 1. In part 12, Exceptions/Remarks of the COC form, the word "partial" shall be entered.
 - 2. In part 12, Exceptions/Remarks of the COC form, the following will be entered: "This is the (entity filling out the COC) portion of (project number). Still needed are COCs from (list other entities working on project)."
 - 3. Complete the remainder of the COC as indicated in Section 5.2 of this SSTD.

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5.2 Detailed Instructions

- a. For projects involving an EMI, the ESD design engineer shall enter data on the COC (form SSC-625) for items 1, 4, 6, 7, 17, 18, 19, 21, 22, 24, 25, 26, 27, 28, 30, 31, 32, 33 and 34, as applicable, and attach to the CR submitted in DDMS. EMI drawings are affected by the CR. Redlines shall be attached to the CR.
- b. For projects not involving an EMI, the COC shall be processed in accordance with the responsible organization's internal procedures.

5.2.1 Form SSC-625 Instructions

Items to be completed for a COC are identified on the sample Form SSC-625 in Appendix A by a circled number which corresponds to the numbered instructions below.

- 1. a: <u>Contractor/Subcontractor Construction</u>
 Work performed by NASA direct contractor or SACOM subcontractor.
 - b: <u>In-House Construction</u> Work performed by SACOM O&M Shops.

2. Completion Date

The date on which the construction is completed per contract end date/charge code number or when final payment has been accepted after all redlines and documentation have been submitted.

3. <u>Implementation Charge No.</u>

The charge number/TO that authorizes the project implementation shall be entered.

4. EMI No.

- a. The EMI number shall be entered.
- b. If an in-house project does not have an applicable EMI, "N/A" shall be entered.

5. Engineering Change Request/Engineering Order No. (ECR/EO No.)

- a. Any ECR or EO number generated in DDMS shall be entered.
- b. If a project does not have an ECR/EO No., "N/A" shall be entered.

6. Work Description

The title of the project and/or a description of the work shall be entered.

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7. Work Area/System

The project location, as well as the system(s) affected, shall be indicated.

8. NASA Contract No.

The number of the NASA construction contract shall be entered. For SACOM subcontracts, SACOM contract number is entered.

9. Subcontract No.

For SACOM subcontracts, the contract number assigned by SACOM contracting is entered. For NASA Direct contracts, "N/A" is entered.

10. Contractor/Subcontractor Name

- a. The contractor or sub-contractor construction company name shall be entered.
- b. For in-house construction, detailed shop information shall be entered. (Example: SACOM Electrical Shop, Contractor O&M Shop.)

11. Contractor/Subcontractor Manager

- a. The contractor or sub-contractor construction company manager's name shall be entered.
- b. For in-house construction, "N/A" shall be entered.

12. Exceptions and Comments

- a. Enter or reference any exceptions or deviations from the project specification that are not described by the documents listed in the document section or specified elsewhere on the COC; e.g., for a Variance Request (form SSC-517) per SSTD-8070-0007-CONFIG), enter the variance request number. Additional pages may be attached as needed to describe the exceptions and comments.
- b. If there is no such information to record, "N/A" shall be entered.

13. Operator Training

"Yes" or "No" shall be marked to indicate whether or not operator training has been scheduled.

14. Stennis Change Request (SCR), Form SSC-61

- a. If SCRs were generated during the course of the project, their numbers shall be indicated.
- b. If the project had no SCRs, "N/A" shall be marked.

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15. Request For Information (RFI), Form SSC-781

- a. If RFIs were generated during the course of the project, their numbers shall be indicated. (If only one [1] was generated, enter "1" in both spaces.)
- b. If the project had no RFIs, N/A shall be marked.

16. Construction Redlines

- a. "Yes" shall be marked if the project involved any changes to construction drawings. If "yes" is marked, redlined construction drawings must be included with the completed COC submittal.
- b. If the project does not involve changes to construction drawings, mark "N/A".

17. Facilities Equipment List

- a. "Yes" shall be marked if any equipment is to be added or removed. If "yes" is marked, the Asset/Equipment List must be completed per SSTD-8070-0010-CONFIG, and NASA Real Property must be notified using NF 1046.
- b. If there is no equipment added or removed, mark "N/A".

18. Vendor/Warranty Information

- a. "Yes" shall be marked if any vendor/warranty information was received. If "yes" is marked, the vendor/warranty information must be included in the EMI folder or the Vendor/Component Library in DDMS.
- b. If no vendor/warranty information was received, mark "N/A".

19. O&M Manuals

- a. "Yes" shall be marked if O&M manuals were required for any equipment or materials purchased or installed for the project. If "yes" is marked, the original manual(s) must be included in the EMI folder or the Vendor/Component Library in DDMS.
- b. If no O&M manuals were required, mark "N/A".

20. Contractor Transmittal Sheet, Form SSC-581

- a. If Contractor Transmittal Sheets for submittals from the contractor were received during the course of the project (e.g., abatement plan, shop drawings, etc.), their numbers shall be indicated. (If only one [1] submittal was generated, enter "1" in both spaces.)
- b. If the project did not involve submittals, "N/A" shall be marked.

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21. Manufacturer Spares List

a. "Yes" shall be marked if manufacturer-supplied spare parts were requested for any new equipment/system purchased or installed. If "yes" is marked, the spares list and a completed SSC New Item Master Request (form SSC-217) must be included.

b. If no manufacturer-supplied spare parts are requested, mark "N/A".

22. Request for Turn In

- a. "Yes" shall be marked if any items were turned in to Redistribution during the project. If "Yes" is marked, the Request for Turn In (form SSC-55) shall be filled out and included in the DDMS EMI or ECR/EO folder.
- b. If no items were turned in during the project, mark "N/A".

23. Punch List

- a. "Yes" shall be marked if a punch list has been prepared which lists any aspects of the project that are incomplete at the date of beneficial use or occupancy. If "yes" is marked, the punch list must be included with the completed COC submittal.
- b. If the project is 100% completed, "N/A" shall be marked.

24. <u>Transfer and/or Notification of Acceptance of Accountability of Real Property, NASA Form 1046</u>

- a. "Yes" shall be marked if the project requires completion of NASA Form 1046. If "yes" is marked, NASA Form 1046 must be included with the completed COC submittal.
- b. If NASA Form 1046 is not required, "N/A" shall be marked.

Note: CEF will forward the NF1046 to the NASA Real Property Officer.

25. Panel Schedule

- a. "Yes" shall be marked if the project involves any changes to breaker panel schedules. If "yes" is marked, a corrected panel schedule must be included with the completed COC submittal.
- b. If the project does not involve any changes to breaker panel schedules, mark "N/A".

26. Asbestos

a. "Yes" shall be marked if project involves removal/disturbance of asbestos. If
"Yes" is marked, an asbestos abatement plan with associated approval forms and
test reports must be included in the DDMS EMI or ECR/EO folder. If asbestos is

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removed, appropriate drawings/model must be redlined and included with the completed COC submittal.

b. If the project did not involve removal/disturbance of asbestos, mark "N/A".

27. Construction Component Spreadsheet

- a. "Yes" shall be marked if a new, replaced or removed component identified by a locator number is part of the EMI. For each new, replaced or removed component, the construction component spreadsheet shall be completed in accordance with SSTD-8070-0006-CONFIG and SREF-8070-0025, and submitted with the completed COC package.
- b. If no new, replaced or removed components were identified by locator number as part of the EMI, mark "N/A".

28. Arc Flash Hazard Study/Analysis

- a. "Yes" shall be marked if the design modified electrical involves three-phase equipment operating at ≥208V to 15kV with an available short-circuit current of ≥2kA AC, permanently installed generators, and battery banks with the short circuit current is ≥2kA DC. If "yes" has been marked, refer to SSTD-8070-0138-ELEC for procedures and requirements for performing an Arc Flash Hazard Analysis.
- b. If the project does not create an arcing fault current of ≥2kA AC, "N/A" shall be marked.

29. SACOM Shop Supervisor/Lead

For in-house construction only, the SACOM Shop Supervisor/Lead shall verify in DDMS that the project is complete. This approval is required for all in-house construction.

30. ESD Construction Manager (CM)

For subcontractor construction, the ESD CM shall verify in DDMS that the project is complete and that the completed COC has all associated documentation included. The ESD CM's approval by concurrence is required on all subcontractor construction.

31. Designer

For both contractor/subcontractor and in-house construction, the designer of the project shall verify that the project has been completed as designed with exceptions covered by SCRs.

Note: For outside A&E, the responsible engineer or designee shall verify the completion of the project as designed.

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32. <u>Customer Representative</u>

The Customer is the person or group who receives the end product/project. A representative of the customer shall approve through concurrence in DDMS to verify project completion.

33. NASA Environmental Representative

A representative of NASA Environmental shall approve through concurrence to verify in DDMS that the completed project conforms to contract requirements.

34. NASA and/or SACOM Safety/Quality Representative

A representative of NASA and/or SACOM Safety/Quality shall approve through concurrence to verify in DDMS that the completed project conforms to contract requirements.

35. NASA (COD Facilities Engineering Services) COR

NASA COR shall verify the completion of the project. Approval by concurrence in DDMS is required for all projects that affect changes to baseline. Refer to section 4.0-e.

36. ESD Drafting Supervisor

After the drawings/model have been updated, the ESD Drafting Supervisor shall approve the drawings/model by completing their Change Notice/Change Activity (CN/CA) task.

37. Central Engineering Files

- a. Upon receipt of COC at project completion, CEF shall confirm all required materials have been provided with the COC package and issue the CA to the Drafting Supervisor for update of drawings/model.
- b. After Drafting updates applicable drawings/model, the Drafting Supervisor shall notify CEF that updates to the drawings have been completed.

38. Central Engineering Files

- a. CEF shall route all affected drawing/models for approval to the NASA PM.
- b. Following NASA PM approval, CEF completes the Audit Title Block task, which advances the CR to the Resolved state.

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5.3 Approvals

The following apply to COC approval blocks 29-35 in Section 5.2.

a. Electronic approvals are preferred.

Note: If an instance should occur in which an individual without DDMS access must approve a COC, as could be the case with an SSC tenant customer, hard signature(s) on the COC (SSC-625) will be permissible with approval from the NASA PM. The signed form will then be uploaded to DDMS and routed for approval by concurrence.

- b. Excluding the Safety and Mission Assurance (SMA), any time an approval is not required, that task will be reassigned to the NASA PM for approval. SMA approval shall not be waived.
- c. If any person listed in an approval block demands corrective action before approving the COC, that person shall complete a Problem Report (PR) within DDMS in accordance with SWI-8730-0006.

6.0 RECORDS AND FORMS

- a. Records and forms identified in this SSTD shall be maintained in accordance with SPR 1440.1. For Quality Records refer to the SSC Master Records Index.
- b. Forms shall be the latest edition unless otherwise specified and may be obtained from the SSC Electronic Forms repository or from the NASA SSC Forms Management Officer.
- c. Forms for this SSTD are as follows:

NASA form 1046, Transfer and/or Notification of Acceptance of Accountability of Real Property

SSC-55, Request for Turn In

SSC-61, Stennis Change Request (SCR)

SSC-151, Engineering Modification Instruction (EMI)

SSC-217, New Item Master Request

SSC-517, Variance Request

SSC-581, Contractor Transmittal Sheet

SSC-625, Certificate of Completion (COC)

SSC-781, Request for Information (RFI)

SSC-886, Panel Schedule Submittal

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7.0 **DEFINITIONS**

Arc Flash – An electrical short circuit through air when insulation or isolation between electrified conductors is breached or can no longer withstand the applied voltage. Temperatures can reach up to 35,000 °F.

Arc Flash Hazard – A source of possible injury or damage to health associated with the release of energy caused by an electric arc.

Arc Flash Hazard Study/Analysis – Study and/or analysis may be used interchangeably to describe the Arc Flash Hazard calculation that is to be performed by a qualified engineer to determine the thermal incident energy found at each location which determines the various arc flash boundaries and what personal protective equipment (PPE) must be used in approaching each boundary. As part of the study, the Engineer should also provide recommendations to reduce the incident energy/arc flash hazard category. An Arc Flash Risk Analysis should only be performed by experienced and qualified Electrical Engineers familiar with power quality, short-circuit studies, NFPA 70E, and IEEE 1584.

Circuit – A conductor or system of conductors through which electric current is intended to flow.

Collateral Equipment – Building-type equipment, built-in equipment, and large, substantially affixed equipment normally acquired and installed as a part of a facility project. The removal of such equipment would impair the usefulness, safety, or environment of the facility and would involve substantial cost because of the special or unique services required for the initial installation.

Construction Manager (CM) – SSC Contractor technician or engineer who supports the NASA COR to coordinate and monitor activities related to a given SSC construction project.

Construction Project – Project that involves new construction or modification, replacement, or repair of SSC facilities.

Contracting Officer Representative (COR) – NASA person assigned by the NASA SSC Center Operations Facilities Engineering Services who is responsible for management and final acceptance of an SSC facilities construction project. COR approval on the COC authenticates acceptance and authorizes update of Site-wide Operational and Repair Documentation (SORD) drawings and related documentation. Refer to SSTD-8070-0001-CONFIG.

Contractor Construction – Construction project for which a contract is issued by NASA to an off-site construction contractor (also known as NASA Direct Contract).

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Customer – Person or group receiving the end project/product.

Designer Engineer – The Engineer or lead person who designs or plans a project.

Direct Contract – Construction project that is assigned by NASA or SSC Resident Agency to an off-site contractor.

Electronic Approval – The routing of an object through the approval loop within DDMS.

Fault Current – The amount of current delivered at a point on the system during a short-circuit condition.

In-house Construction – Construction projects that have been assigned by NASA to a SACOM element.

Non-Collateral Equipment – Equipment other than collateral; i.e., equipment that can be removed after erection or installation without substantial loss of value or damage to the facility (e.g., shop equipment, special purpose mobile equipment, some test equipment). Non-collateral equipment is not required to make the facility useful or operable as a structure or building.

Panel Schedule – A tabulated listing by circuit position of equipment serviced by the panel's circuit breaker(s).

Punch List – List of items from a particular project which are unfinished or unacceptable at the point of beneficial use or occupancy. Punch list items are completed after occupancy at the convenience of the customer.

Real Property – Land, buildings, structures and utility systems including improvements to these assets, and installed collateral equipment.

Subcontractor Construction – Construction projects that have been assigned by SACOM to a subcontractor.

Test Liaison – SACOM technician or engineer who performs duties as a TC CM.

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8.0 ACRONYMS AND ABBREVIATIONS

CA Change Activity

CC Configuration Coordinator
CEF Central Engineering Files
CM Construction Manager
CN Change Notice

COC Certificate of Completion (form SSC-625)

COR Contracting Officer Representative

CR Change Request

DDMS Design and Data Management System

ECR Engineering Change Request

EMI Engineering Modification Instruction (form SSC-151)

EO Engineering Order

ESD Engineering Services Division FSD Facilities Services Department

N/A Not Applicable

NASA National Aeronautics and Space Administration

O&M Operation and Maintenance

PDLM Product Data Lifecycle Management

PR Problem Report

RFI Request For Information

SACOM Synergy-Achieving Consolidated Operations and Maintenance

SCR Stennis Change Request (form SSC-61)

SIES Supervision, Inspection and Engineering Support

SMA Safety and Mission Assurance

SOMRD System Operations and Maintenance Responsibility Database

SORD Site-wide Operational and Repair Documentation

SPR Stennis Procedural Requirement

SRService RequestSREFStennis ReferenceSSCStennis Space CenterSSTDStennis Standard

SWI Stennis Work Instruction

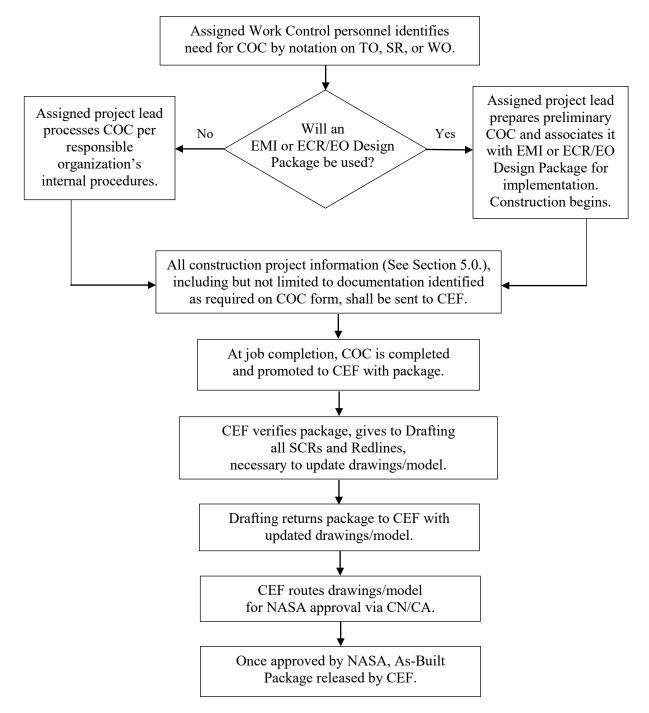
TC Test Complex
TO Task Order
WO Work Order

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9.0 FLOW CHART

COC PROCESS FLOW CHART

Note: Electronic submission of data via DDMS is preferred.



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APPENDIX A

National Aeronautics and Space Administration John C. Stennis Space Center Stennis Space Center, MS 39529-6000			
(1A) CONTRACTOR/SUBCONTRACTOR CONSTRUCTION COMPLETION DATE EMI NO. 4	1B) IN-HOUSE CONSTRUCTION IMPLEMENTATION CHARGE NO. 5 ECR/EO NO.		
WORK DESCRIPTION (6) WORK AREA/SYSTEM NASA CONTRACT NO. CONTRACTOR/ SUBCONTRACTOR NAME (10)	SUBCONTRACT NO. CONTRACTOR/ SUBCONTRACTOR MANAGER 11		
EXCEPTIONS & (12) HAS OPERATOR TRAINING BEEN SCHEDULED? YES (13) NO			
DOCUMENTATION ("YES" Items must be submitted to CEF on COCs)			
SHOP SUPERVISOR (Verifies contractor in-house project complete) CONSTRUCTION MANAGER (Verifies subcontractor project complete)	N/A		
DESIGNER (Verifies completion of project with exceptions noted above)	DATE		
NASA ENVIRONMENTAL REPRESENTATIVE (Verifies that project meets Environmental requirements) NASA SAFETY/QUALITY REPRESENTATIVE	DATE		
(Verifies that project meets safety/quality assurance requirements) NASA (COD Facilities Engineering Services) COR (Verifies that project is complete)	DATE		
DRAFTING SUPERVISOR 36 (Verifies completion of drawing updates)	DATE		
CENTRAL ENGINEERING ACCEPTANCE (Required on all COCs)			
(Acceptance of COC Package)	(Issuance and Distribution)		

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